DOCUMENT RESUME

ED 231 880 TM 830 496

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TITLE The Course Structure Inventory: A Classroom Personality Measure.
PUB DATE Apr 83
NOTE 18p.; Paper presented at the Annual Meeting of the American Educational Research Association (67th, Montreal, Quebec, April 11-15, 1983).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Classroom Research; *College Instruction; *Course Organization; *Difficulty Level; Higher Education; Personality Measures; Predictive Measurement; *Student Attitudes; *Test Anxiety; Test Construction; Test Validity
IDENTIFIERS Confounding Variables; *Course Structure Inventory; Structured Activities; Tolerance; *Trait Anxiety

ABSTRACT

Increasing emphasis is being given to the construct of course structure in educational research. The Course Structure Inventory (CSI) was designed to measure this construct as a unitary dimension made up of student attitudes toward varying degrees and kinds of structure (ACS). In addition to measuring ACS, the CSI has the added advantage of measuring student tolerance for course difficulty (TFD) as an independent dimension, thereby avoiding the problem of confounding measures of structure and difficulty. The reported research sought to extend the validation of the CSI through correlating its measures with other personality traits commonly investigated in educational research. The ACS subscale was found to be significantly negatively correlated with a measure of arousal seeking tendency; the TFD subscale was significantly negatively correlated with a measure of test anxiety, but not with a measure of trait anxiety. These findings are discussed, along with earlier research findings involving the CSI, in concluding that the CSI is a useful measure of situational classroom personality. A copy of the CSI is included in the report. (Author)

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The Course Structure Inventory: A Classroom Personality Measure

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A paper presented at the Annual Meeting of the American Educational Research Association, Montreal, 1983

TM 830 196

The Course Structure Inventory :
A Classroom Personality Measure

ABSTRACT

Increasing emphasis is being given to the construct of course structure in educational research. The Course Structure Inventory (CSI) was designed to measure this construct as a unitary dimension made up of student attitudes toward varying degrees and kinds of structure (ACS). In addition to measuring ACS, the CSI has the added advantage of measuring student tolerance for course difficulty (TFD) as an independent dimension, thereby avoiding the problem of confounding measures of structure and difficulty. The reported research sought to extend the validation of the CSI through correlating its measures with other personality traits commonly investigated in educational research. The ACS subscale was found to be significantly negatively correlated with a measure of arousal seeking tendency; the TFD subscale was significantly negatively correlated with a measure of test anxiety, but not with a measure of trait anxiety. These findings are discussed, along with earlier research findings involving the CSI, in concluding that the CSI is a useful measure of situational classroom personality. A copy of the CSI is included in the report.

The Course Structure Inventory: A
classroom personality measure

Introduction

Increasing emphasis is being given to the concept of course structure in educational research (Clark, 1980; Cronbach & Snow, 1977; Strom & Hocevar, 1980; 1981; 1982; Morrison, 1979). In a recent review, Strom, Hocevar, and Zimmer (1981) enumerate several among the striking diversity of methods researchers have used to manipulate course structure. They argue that the diversity of methods employed to influence structure indicates that the amount of structure in instruction depends on a variety of factors. This seemingly obvious conclusion has been ignored for both experimental and practical reasons, and, consequently, a number of problems have arisen. For example, investigators (e.g. Clark, 1980; Strom & Hocevar, 1980) have argued that student satisfaction needs to be considered when evaluating the effects of increased course structure. While considerable research has been done in this area, conclusions are seriously limited in that most researchers manipulate only some aspects of course structure while others are free to vary. The problem is exacerbated when variables not related to structure (e.g. novelty, difficulty level, etc.) are also manipulated. These kinds of problems point to the need to develop an instrument that will gauge student attitudes toward varying degrees and kinds of course structure as a unitary dimension.

It is also clear from recent reviews (Snow; 1976) that there is a need to develop a set of educationally relevant personological characteristics that establish the basis for a theory of student aptitude. A demonstration of

this need is found in ATI research. Cronbach and Snow (1977) and Strom and Hocevar (1980) established the constructive motivation hypothesis and the structural affect hypothesis, respectively, to account for certain consistencies in ATI research. To date, all of the research supporting these hypotheses has centered on theoretically stable personality traits such as need for achievement, locus of control, test anxiety, trait anxiety, etc. Researchers have generally failed to consider the interactive effects of transitory or of course-related variables such as student attitude toward instruction.

In response to these outlined needs, Strom, Hocevar, and Zimmer (1981) developed and began validation of the Course Structure Inventory (CSI) as a measure of student attitude toward course structure. The CSI operationalizes course structure in terms of student attitudes toward the amount of control imposed by an instructor or by a mode of instruction. While other definitions of structure do exist (e.g., Snow, 1976), amount of structure has been most often conceptualized in terms of the degree of control maintained over student activities (Husten-Stein, 1977; Morrison, 1979).

The CSI has the added advantage of measuring a second variable, tolerance for course difficulty. In previous research on course structure, attitudes toward structure and difficulty have typically been confounded. However, the CSI subscales for structure (ACS) and difficulty (TED) have been shown to be conceptually distinct (Hocevar, Strom, & Zimmer, 1981). Tolerance for course difficulty is beginning to appear in the literature as an important student characteristic in its own right (cf. Strom, Hocevar, & Zimmer 1981; 1982; Strom & Hocevar, 1982). The purpose of the current study is to extend the usefulness of the CSI as a measure of student attitude toward course structure and of

tolerance for course difficulty by identifying well-established personality factors which predict these measures. The selected factors include trait-anxiety, text anxiety, and arousal seeking tendency. Measures of trait-anxiety and test-anxiety are used because of their common usage in previous ATI research and in other research on classroom structure (cf, Peterson, 1977). The nature of trait- and text-anxiety suggests that both should increase as student tolerance for difficulty decreases. Therefore, it is hypothesized that trait- and test-anxiety are negatively correlated with tolerance for difficulty. For exploratory purposes, it is also hypothesized that trait- and test-anxiety are positively related to each other.

Arousal seeking tendency is an individual's motive to seek novel experiences in order to reach an optimal level of arousal. The nature of this construc and related research (Zucherman, 1978; Mehrabian, 1977; 1980) suggest that individuals who are arousal seekers should dislike high course structure. Therefore, it is hypothesized that arousal seeking tendency and attitude toward course structure are negatively correlated.

Method

As part of a take-home assignment in an education course, 62 graduate students were administered the Trait Anxiety Test (Spielberger, 1968), the Test Attitude Inventory (Spielberger, et al., 1977) and the measure of Arousal Seeking Tendency (Mehrabian, 1977). In addition, the Course Structure Inventory (CSI) was administered. On this inventory students are asked to indicate their preference for a high structure or low structure alternative in each structure (ACS) item or for a high difficulty or low difficulty alternative in each difficulty (TED) item. The development, rationale, reliability, content validity, discriminant validity, and construct validity of the initial version of the CSI are discussed in Hocevar, Strom, and Zimmer (1981). A revised CSI was used in

the current research in order to obtain a more reliable measure of ACS and TFD. The ACS subscale has 37 items of which the following are illustrative:

DO YOU PREFER:

1. a) Well organized lectures, or
   b) Good student discussions

2. a) Assigned readings, or
   b) Optional readings

3. a) Instructor assigned paper topics, or
   b) Student-selected paper topics

4. a) Lectures that cover the text, or
   b) Lectures that extend beyond the text

The TED subscale has 31 items, of which the following are illustrative:

1. a) Examples during lectures, or
   b) Purely theoretical lectures

2. a) Difficult assignments, or
   b) Simple "busywork" assignments

3. a) Challenging courses, or
   b) Simple courses

4. a) Instructors who call on students in class, or
   b) Instructors who lecture in class

Results and Discussion

Correlations between all pairs of variables are shown in Table I. All instruments had alpha-coefficient rehabilities exceeding .80. High scores indicate high preference for high structure (ACS), a high tolerance for course difficulty (TFD), high trait anxiety, high test anxiety, and high tendency for seeking arousal. The findings indicate that three of the four investigated hypotheses are confirmed. Tolerance for course difficulty is significantly negatively correlated with test anxiety ($r = -.46$, $p < .05$). Trait anxiety and text anxiety show a significant positive correlation ($r = .49$, $p < .05$). Attitude toward course structure (ACS) is significantly negatively correlated with arousal seeking tendency ($r = -.29$, $p < .05$). The hypothesis that tolerance for course difficulty is negatively correlated with trait anxiety is not supported although the trend is in the hypothesized direction ($r = -13$, n.s.).

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Insert Table I About Here

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The primary purpose of the current research is to strengthen the contention that the CSI subscales of attitude toward course structure (ACS) and tolerance for difficulty (TFD) are legitimate classroom personality measures. This is accomplished by showing that both the ACS and TFD subscales are related to personality variables commonly investigated in educational research. The current investigation shows ACS to be negatively correlated with arousal seeking tendency. This correlation indicates that students who seek novel experiences in order to reach an optimal level of arousal prefer low structure instructional methods in which they are permitted a degree of control over their own activities. This finding replicates a previous finding, relating the ACS subscale of an earlier version of the CSI to arousal seeking. In a study involving 215 juniors, seniors, and graduate students from three different universities, Strom, Hocevar, Zimmer, and Michael (1982) found ACS and arousal seeking tendency to be significantly negatively correlated ($r = -.37$, $p < .05$). In that same study, Strom, et al., found ACS to be significantly positively related to Rokeach's (1956) measure of dogmatism ($r = .23$, $p. < .05$). This latter correlation indicates that dogmatic students, who are characterized as resistant to change, closed minded, and dependent on absolute authority, prefer instructional methods in which the instructor exercises control over student activities. This is consonant with the literature on dogmatism.

In another study involving 86 undergraduate students at a small liberal arts college, Strom and Hocevar (1982) found the earlier version of the ACS subscale to be significantly related to a measure of dominance-submissiveness (Mehrabian, 1977) and to a measure of locus of control (Crandall, Katovski, and Grand, 1965), which was modified for use with college students. Strom and Hocevar found, somewhat surprisingly, that dominant and internal students actually preferred high levels of course structure ($r = .21$, $p < .05$, and

$r = .37$, $p < .01$, respectively). The findings are, however, consonant with those predicted in Clark's (1982) article, which notes a potential antagonism between instructional treatments which students prefer and those in which they achieve.

The current research shows TFD to be significantly negatively correlated with test anxiety. This correlation indicates that high test-anxious students prefer low structure instructional methods in which they are permitted a degree of control over their own activities. This result makes intuitive sense. Students who have some degree of control over their course activities may not be confronted with tests. Alternatively, tests may be less threatening when utilized in low structure methods of instruction.

The failure to confirm the hypothesis predicting a negative correlation between TFD and trait anxiety is somewhat welcome. As noted earlier in this paper, there is a need for classroom researchers to examine transitory, state variables and course-related variables in constructing a theory of aptitudes. The fact that the TFD subscale correlates with test-anxiety, which might be termed a situational variable, but not with trait anxiety, which is a theoretically stable personality measure, lends additional support to the case for this need.

In previous research involving the TFD subscale of an earlier version of the CSI, Strom, Hocevar, Zimmer, and Michael (1982) found TFD to be negatively correlated with Rokeach's (1956) measure of dogmatism ($r = -.22$, $p < .05$). That correlation indicates that highly dogmatic individuals prefer easier courses, a finding consistent with the literature on dogmatism. In the Strom and Hocevar (1982) study mentioned earlier, TFD was found to be significantly positively correlated with a measure of dominance-submissiveness (Mehrabian, 1978) and with a measure of locus of control (Crandall, et al.,

1965), modified for use with college students ($r = .27$, $p < .01$, and $r = .21$, $p < .05$, respectively). The correlations indicate that dominant and internal students prefer more difficult, more challenging courses. Again these findings are consistent with the literature on the two measures.

Another correlation worthy of note in Table I is the one between the ACS and TFD subscales ($r = .10$, n.s.). The low level of correlation suggests that the two scales are, in fact, measuring different things. A stronger case may be made for this conclusion by briefly reviewing two previous studies involving the CSI. Strom, Hocevar, Zimmer, and Michael (1982) investigated the discriminant and construct validity of an earlier version of the CSI. Conclusions were that the subscales of ACS and TFD measured what they purported to measure and that each measured a distinct student classroom preference.

More recently, a stronger case has been made for the construct and discriminant validity of the CSI. Zimmer, Hocevar, Strom, and Groh (1983) used confirmatory factor analysis (CFA) to examine validity of the CSI. The CFA technique permits analysis of student responses to the CSI with specification of the expected instrumental factors made a priori. Based on earlier research on the CSI, a two factor model, made up of the ACS and TFD dimensions, was hypothesized to be a best fit for student response data. This analysis provided strong support for each scale's reliablity and discriminant validity. Furthermore the two factor model proved to be a significantly better fit to the data than either a null model or a one-factor model.

The current investigation, taken in combination with the earlier research findings discussed above, suggests the usefulness of the CSI as a classroom personality measure in future research. The subscales of the CSI correlate appropriately with a number of personality measures that are commonly used in classroom research. The subscales have the added advantage that they

measure students' situational responses to specific aspects of instructional methods. In this sense they, are truly classroom personality measures. The established conceptual distinctness of ACS and TFD subscales also provide opportunity to avoid the confounding of structure and difficulty dimensions in research on classroom structure. Previous and current research suggest that the CSI is a strong instrument, which should be useful in ATI research on achievement and satisfaction outcomes, in course evaluation research, and in studies relating student classroom personality to achievement and satisfaction. A copy of the CSI is attached to this paper.

TABLE I

VARIABLE INTERCORRELATIONS

	ACS	Trait Anxiety	Test Anxiety	Arousal Seeking
TFD	.10	-.13	-.46*	.03
ACS		-.09	-.07	-.29*
Trait Anxiety			.49*	.01
Test Anxiety				.02

*Significant correlations ($p < .05$)

REFERENCES

Clark, R.E. Do students enjoy the instructional method from which they learn the least? Antagonism between enjoyment and achievement in ATI studies. Paper presented at the annual meeting of the American Educational Research Association, Boston, April, 1980.

Clark, R.E. Antagonism between achievement and enjoyment in ATI studies. Educational Psychologist, 1982, 17, 92-101.

Crandall, V.C., Katovsky, W., & Grand, B.J. Children's beliefs in their control of reinforcements in intellectual academic achievement behavior. Child Development, 1965, 36, 91-109.

Cronbach, L.J. & Snow, R.E. Aptitudes and instructional methods: A handbook for research on interactions. New York: Halsted Press, 1977.

Hocevar, D.J., Strom, B., & Zimmer, J.W. The development of a measure of student attitude toward course structure. A paper presented at the annual meeting of the National Council for Measurement in Education, Los Angeles, 1981.

Husten-Stein, A., Friedrich-Cofer, L., Susman, E. The relation of classroom structure to social behavior, imaginative play, and self-regulation of economically disadvantaged children. Journal of Child Development, 1977, 48, 908-916.

Mehrabian, A. Individual differences in stimulus screening and arousability. Journal of Personality, 1977, 45, 237-250.

Mehrabian, A. Basic Dimensions for a General Psychological Theory, Cambridge: Oelgeschlager, Gunn, and Hain, 1980.

Morrison, T. Classroom structure, work involvement, and social climate in elementary school classrooms. Journal of Educational Psychology, 1979, 71, 471-477.

Peterson, P.L. Interactive effects of student anxiety, achievement orientation, and teacher behavior on student achievement and attitude. Journal of Education Psychology, 1977, 69, 779-792.

Rokeach, M. Political and religious dogmatism: An alternative to the authoritarian personality. Psychological Monographs, 1956, 70, (18, Whole No. 425).

Snow, R.E. Research on aptitude for learning: A progress report. In L.S. Schulman (ed.), Review of Research in Education (Vol. 4). Itasca, Illinois: Peacock, 1976.

Spielberger, C.D. Self-Evaluation Questionnaire. Palo Alto: Consulting Psychologists Press, 1968.

Spielberger, C.D., Gonzalez, H., Taylor, C., Ross, G., and Anton, W. Test Attitude Inventory. Palo Alto: Consulting Psychologists Press, 1977.

Strom, B. & Hocevar, D.J. Influence of course structure on student affect: The structural affect hypothesis. A paper presented at the Annual Meeting of the American Educational Research Association, Boston, 1980.

Strom, B. and Hocevar, D.J. Interactive effects of student satisfaction and course structure on student achievement. Paper presented at the 1981 Conference of the American Educational Research Association, 1981.

Strom, B. & Hocevar, D.J. Relationship between locus of control, dominance-submissiveness, and attitudes toward course structure and course difficulty. Paper presented at the Annual Meeting of the American Educational Research Association, New York, March, 1982.

Strom, B., Hocevar, D.J., and Zimmer, J. Attitude toward course structure and selected personality characteristics. Paper presented at the Annual Convention of the American Psychological Association, Los Angeles, 1981.

Strom, B., Hocevar, D.J., and Zimmer, J. Satisfaction and achievement: Antagonists in ATI research on classroom structure. Paper presented at the Annual Convention of the American Psychological Association, Washington, D.C., 1982.

Strom, B., Hocevar, D.J., Zimmer, J., and Michael, W.B. The Course Structure Inventory: Discriminant and construct validity. Educational and Psychological Measurement, 42, 1125-1133.

Zimmer, J., Hocevar, D.J., Strom, B., and Groh, C. Development of the Instructional Preferences Inventory (IPI). Working paper, 1983.

Zuckerman, M. Sensation seeking. In H. London and J.E. Exner (eds.), Dimensions of Personality. New York: John Wiley, 1978.

CSI

Directions: Listed below is a list of pairs of items which describe some common course and instructor characteristics. For each pair select one item that you would prefer to experience in the courses you take. Circle the letter preceding that item (or mark the letter of that item on the provided answer sheet). In some cases, you may have difficulty deciding between alternatives. Try to respond to those pairs to the best of your ability. You must respond to each pair. Some pairs may appear repetitive. You should attempt to respond to each pair without going back to other pairs that are similar.

Remember, select one preference for each pair.

DO YOU PREFER:

1. a. Well organized lectures, or
   b. Good student discussions

2. a. Assignments that permit student choice, or
   b. Assignments that have specific requirements

3. a. Difficult assignments, or
   b. Simple, "busywork" assignments

4. a. Courses which review previously learned material, or
   b. Courses which continually introduce new material

5. a. Written lecture outlines, or
   b. Oral summaries of lectures

6. a. Flexible instructors, or
   b. Instructors who establish a routine and stick to it

7. a. Lectures that go beyond course objectives, or
   b. Lectures that concentrate on course objectives

8. a. Verbal summaries at the end of lectures, or
   b. Written assignments which review lecture material

9. a. Instructor assigned paper topics, or
   b. Student selected paper topics

10. a. Flexible due dates, or
    b. Firmly established due dates

11. a. Instructors who call on students in class, or
    b. Instructors who lecture in class

12. a. Study questions for exams, or
    b. Relying on your class notes and text to study for exams

13. a. Assigned readings, or
    b. Optional readings

DO YOU PREFER:

14. a. Course which require you to learn in new ways, or
    b. Courses which emphasize traditional ways of thinking

15. a. Theoretical rather than applied course content, or
    b. Applied course content

16. a. Movies which supplement content, or
    b. Class meetings which cover additional content

17. a. Required attendance, or
    b. Attendance based on interest

18. a. Courses that solve personal problems, or
    b. Courses that address larger social problems

19. a. Frequent examinations, or
    b. Few or no examinations

20. a. Examples during lectures, or
    b. Purely theoretical lectures

21. a. Letter grades on assignments, or
    b. General quality statements on assignments

22. a. Study at your own pace, or
    b. Study at the pace set by the instructor

23. a. Courses which require you to think in new ways, or
    b. Courses which support your way of thinking

24. a. Flexible due dates, or
    b. Set and invariant due dates

25. a. Orderly classes, or
    b. Classes with a variety of activities

26. a. One-to-one contact with the instructor, or
    b. Contact with the instructor in class meetings

27. a. Independent study opportunities, or
    b. Prescribed study activities

28. a. Lectures that cover the text, or
    b. Lectures that extend beyond text information

29. a. Required courses, or
    b. Elective courses

30. a. Optional assignments, or
    b. All assignments required

31. a. Challenging courses, or
    b. Simple courses

DO YOU PREFER:

32. a. Clear standards for grading, or
    b. Grading on the "curve" established by your class

33. a. Instructors who rely heavily on lecture notes, or
    b. Instructors who talk without notes

34. a. Instructors who accept suggestions, or
    b. Instructors who make course decisions independently

35. a. Heavy reading assignments, or
    b. Optional reading assignments

36. a. Extra-credit assignments, or
    b. Required assignments only

37. a. Courses that follow the outline closely, or
    b. Courses in which students and instructor make the outline

38. a. Guest lectures, or
    b. Instructor lectures

39. a. Surprise quizzes, or
    b. Announced quizzes

40. a. Immediate feedback on exams, or
    b. Delayed, more detailed feedback on exams

41. a. Instructors who criticize students, or
    b. Instructors who compliment students

42. a. Movies which supplement content, or
    b. Lectures which supplement content

43. a. High-level, or difficult lectures, or
    b. Low-level, or common sense lectures

44. a. Review sessions for exams, or
    b. Independent prepration for exams

45. a. Theoretical rather than applied course content, or
    b. Field or laboratory work on course content

46. a. Variety in class activities, or
    b. Classes which emphasize one sort of activity

47. a. Courses which demand original thinking, or
    b. Courses which emphasize factual information

48. a. Optional assignments, or
    b. Specific prescribed assignments

49. a. Lectures that cover the text; or
    b. Lectures that extend beyond the text

50. a. Frequent student-student interaction, or
    b. Frequent instructor-student interaction

DO YOU PREFER:

51. a. Difficult reading assignments, or
    b. Simplified summaries of difficult readings

52. a. Courses that follow the outline closely, or
    b. Courses that stray from the outline often

53. a. Frequent exams, or
    b. No exams

54. a. Individualized assignments, or
    b. Specific assignments required of all students

55. a. Instructors who stray from the subject matter, or
    b. Instructors who emphasize specific subject matter continuously

56. a. Frequent information on grades, or
    b. Information on the quality of work without reference to grades

57. a. Course which demand memorization, or
    b. Courses which demand independent reasoning

58. a. Instructors who enhance lectures with personal stories, or
    b. Instructors who lecture only on academic material

59. a. Comprehensive final exams, or
    b. Final exams only on recently covered material

60. a. Group student projects, or
    b. Individual student assignments

61. a. Exams that cover factual material, or
    b. Exams that require original thought

62. a. Breaks in the middle of class, or
    b. Classes without breaks

63. a. Exams that go beyond lectures and text, or
    b. Exams which test only lecture and text material

64. a. Lecture classes, or
    b. Discussion or question-answer classes

65. a. Pass-fail grading, or
    b. Letter grading

66. a. Classes which continuously follow the same pattern, or
    b. Classes which continuously change style or routine

67. a. Courses taught by more than one instructor, or
    b. Courses taught by a single instructor

68. a. Final exams, or
    b. No final exams